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Wei Lin

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EXAMINER

BATURAY, ALICIA

ART UNIT

PAPER NUMBER

2155

MAIL DATE

DELIVERY MODE

05/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/042,142

Applicant(s)

LIN ET AL.

Examiner

Alicia Baturay

Art Unit

2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 and 80-91 is/are pending in the application.
- 4a) Of the above claim(s) 62-79 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-61 and 80-91 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11172006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the amendment filed 5 March 2007.
2. Claims 1, 8, 11, 17, 18, 26, 32, 39, 44, 45, 49, 56, 80 and 88 were amended.
3. Claims 62-79 have been withdrawn.
4. Claims 1-61 and 80-91 are pending in this Office Action.

Response to Amendment

5. Applicant's amendments and arguments with respect to claims 1-61 and 80-91 filed on 5 March 2007 have been fully considered but they are deemed to be moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-4, 6, 7, 13-16, 18-21, 23-25, 32-35, 37, 38, 44-47, 49, 50-52, 54 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yagil et al. (U.S. 6,732,315) and further in view of Gorman et al. (U.S. 6,137,793).

Yagil teaches the invention substantially as claimed including a home networking transmitter, receiver, station, network manager, network and method adapted to network

devices over phone lines in a home. A bandwidth other than the 4 to 10 MHz band defined in the HomePNA 2.0x specification and a Baud rate higher than 4M baud may be used for communications between a plurality of devices. PHY and MAC layers are improved to increase the performance of home phone line networks (see Abstract).

8. With respect to claim 1, Yagil teaches a method for providing access to a communications medium, the communications medium being suitable for allowing use of Home Phoneline Network Association (HPNA) v2-formatted frames, each HPNA v2-formatted frame being timed to allow a plurality of physical layer priority level slots, the method comprising the steps of: maintaining a list of sessions in enhanced stations (STAs) (Yagil, col. 9, lines 48-53) using the communications medium (Yagil, Fig. 4, element 406; col. 5, lines 19-33), each enhanced STA being one of a Media Control Station (MC STA) (Yagil, Fig. 4, element 404; col. 5, lines 19-33 and col. 10, lines 33-41) and a non-Media Control Station (Non-MC STA) (Yagil, Fig. 4, element 300; col. 5, lines 34-46), and each enhanced STA gaining access to the communications medium in a centralized manner (Yagil, col. 9, lines 48-63), and transmitting a message from the Media Control Station (MC STA) (Yagil, Fig. 4, element 404; col. 10, lines 33-41) to at least one selected non-MC STA using the communications medium (Yagil, Fig. 4, element 300; col. 5, lines 34-46 and col. 11, lines 51-67), the transmitted message being transmitted with a highest physical layer priority level available in a first HPNA v2-formatted frame (Yagil, col. 10, lines 23-41).

Yagil does not explicitly teach choosing a signal slot 0 during contention resolution.

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However, Gorman teaches at least one enhanced station adapted to always choose a signal slot 0 during contention resolution with another station (Gorman, col. 22, lines 1-19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yagil in view of Gorman in order to enable choosing a signal slot 0 during contention resolution. One would be motivated to do so in order to properly allocate and manage constant bit rate streams on a Home Network in a contention-free manner.

9. Claim 32 does not teach or define any new limitations above claim 1 and therefore is rejected for similar reasons.
10. With respect to claim 2, Yagil teaches the invention described in claim 1, including the method where a frame encoding of at least one HPNA v2-formatted frame is modified to allow a higher encoding rate than permitted by HPNA v2 (Yagil, col. 3, lines 33-38).
11. Claims 19, 33 and 50 do not teach or define any new limitations above claim 2 and therefore are rejected for similar reasons.
12. With respect to claim 3, Yagil teaches the invention described in claim 1, including the method where a frame header encoding of at least the first HPNA v2-formatted frame is modified to allow one of a polling frame, a beacon frame, a Centralized Contention (CC) frame, and a management frame (Yagil, col. 11, lines 16-25).

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13. Claims 20, 34 and 51 do not teach or define any new limitations above claim 3 and therefore are rejected for similar reasons.
14. With respect to claim 4, Yagil teaches the invention described in claim 3, including the method where when the HPNA v2-formatted frame is modified to allow a Medium Allocation Element (MAE) in the management frame (Yagil, col. 9, line 60 – col. 10, line 4).
15. Claims 21, 35 and 52 do not teach or define any new limitations above claim 4 and therefore are rejected for similar reasons.
16. With respect to claim 6, Yagil teaches the invention described in claim 1, including the method where the transmitted message is one of a polling frame, a data frame and a management frame, and includes an encoding indicating a frame type within a body of the transmitted message (Yagil, col. 9, line 60 – col. 10, line 4).
17. Claims 23, 37 and 54 do not teach or define any new limitations above claim 6 and therefore are rejected for similar reasons.
18. With respect to claim 7, Yagil teaches the invention described in claim 1, including the method where the highest priority level slot of the first HPNA v2-formatted frame is PRI 7 (Yagil, col. 10, lines 5-41).

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19. Claims 25, 38 and 55 do not teach or define any new limitations above claim 7 and therefore are rejected for similar reasons.
20. With respect to claim 13, Yagil teaches the invention described in claim 1, including the method further comprising a step of at least one selected non-MC STA receiving the message from the MC STA (Yagil, Fig. 4, element 300; col. 9, lines 48-63 and col. 11, lines 51-67).
21. Claim 44 does not teach or define any new limitations above claim 13 and therefore is rejected for similar reasons.
22. With respect to claim 14, Yagil teaches the invention described in claim 13, including the method further comprising a step of responding at each selected non-MC STA receiving the message with a frame transmitted with the highest physical layer priority level available in the HPNA v2-formatted frame at an appropriate time based on the first message from the MC STA (Yagil, col. 9, lines 48-63 and col. 11, lines 51-67).
23. Claim 45 does not teach or define any new limitations above claim 14 and therefore is rejected for similar reasons.
24. With respect to claim 15, Yagil teaches the invention described in claim 13, including the method where the received message includes a Medium Allocation Packet for a plurality of non-MC STAs, the MAP including information relating to one of a specific time period

assigned to each of the plurality of non-MC STAs, an order for each of the plurality of non-MC STAs to use the communications medium, an order for transmissions for each of the plurality of non-MC STAs, and a maximum time for each of the plurality of non-MC STAs to occupy the communications medium (Yagil, col. 9, lines 48-63 and col. 11, lines 51-67).

25. Claims 24 and 46 do not teach or define any new limitations above claim 15 and therefore are rejected for similar reasons.

26. With respect to claim 16, Yagil teaches the invention described in claim 13, including the method further comprising a step of receiving a reply message at the MC STA from at least one selected non-MC STA in response to the transmitted message from the MC STA (Yagil, col. 10, lines 23-28), the received message starting at a highest physical layer priority level available in a second HPNA v2-formatted frame (Yagil, col. 10, lines 23-41).

27. Claim 47 does not teach or define any new limitations above claim 16 and therefore is rejected for similar reasons.

28. With respect to claim 18, Yagil teaches a method for providing access to a communications medium, the communications medium being suitable for allowing use of a plurality of Home Phoneline Network Association (HPNA) v2-formatted frames, each HPNA v2-formatted frame being timed to allow a plurality of physical layer priority level slots, the method comprising steps of: receiving a message at a non-Media Control Station

(non-MC STA) (Yagil, Fig. 4, element 300; col. 5, lines 34-46) from a Media Control (MC) STA (Yagil, Fig. 4, element 404; col. 5, lines 19-33 and col. 10, lines 33-41), the non-MC STA and the MC STA each being enhanced STAs that gain access to the communications medium in a centralized manner, the MC STA maintaining a list of sessions in enhanced STAs (Yagil, col. 9, lines 48-63) using the communications medium (Yagil, Fig. 4, element 406; col. 5, lines 19-33), the received message starting at a highest physical layer priority level slot available with a first HPNA v2-formatted frame (Yagil, col. 10, lines 23-41); and transmitting a reply message from the non-MC STA in response to the received message to the MC STA (Yagil, col. 10, lines 23-28), the reply message being transmitted at a highest physical layer priority level available in a second HPNA v2-formatted frame (Yagil, col. 10, lines 23-41).

Yagil does not explicitly teach choosing a signal slot 0 during contention resolution.

However, Gorman teaches at least one enhanced station adapted to always choose a signal slot 0 during contention resolution with another station (Gorman, col. 22, lines 1-19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yagil in view of Gorman in order to enable choosing a signal slot 0 during contention resolution. One would be motivated to do so in order to properly allocate and manage constant bit rate streams on a Home Network in a contention-free manner.

29. Claim 49 does not teach or define any new limitations above claim 18 and therefore is rejected for similar reasons.

30. Claims 5, 8-12, 22, 26-30, 36, 39-43, 53 and 56-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yagil in view of Gorman and further in view of Chuah et al. (U.S. 6,674,765).

31. With respect to claim 5, Yagil teaches the invention described in claim 4, including the method where when the HPNA v2-formatted frame is modified to allow a Medium Allocation Element (MAE) in the management frame (Yagil, col. 9, line 60 – col. 10, line 4).

Yagil does not explicitly teach choosing a signal slot 0 during contention resolution.

However, Gorman teaches at least one enhanced station adapted to always choose a signal slot 0 during contention resolution with another station (Gorman, col. 22, lines 1-19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yagil in view of Gorman in order to enable choosing a signal slot 0 during contention resolution. One would be motivated to do so in order to properly allocate and manage constant bit rate streams on a Home Network in a contention-free manner.

The combination of Yagil and Gorman does not explicitly teach the use of a Beacon frame.

However, Chuah teaches the method where the management frame is a Beacon frame (Chuah, col. 8, lines 15-18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Yagil and Gorman in view of Chuah in order to enable the use of different types of frames. One would be motivated to do so in order to provide access priority in a MAC protocol of a communications system.

32. Claims 22, 36 and 53 does not teach or define any new limitations above claim 5 and therefore is rejected for similar reasons.

33. With respect to claim 8, Yagil teaches the invention described in claim 1, including the method where at least one HPNA v2 STA is associated with the communications medium, the method further comprising steps of: determining whether the message has collided with a message transmitted from the HPNA v2 STA (Yagil, col. 11, lines 16-28).

Yagil does not explicitly teach choosing a signal slot 0 during contention resolution.

However, Gorman teaches at least one enhanced station adapted to always choose a signal slot 0 during contention resolution with another station (Gorman, col. 22, lines 1-19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yagil in view of Gorman in order to enable choosing a signal slot 0 during contention resolution. One would be motivated to do so in order to properly allocate and manage constant bit rate streams on a Home Network in a contention-free manner.

The combination of Yagil and Gorman does not explicitly teach the use of selecting a backoff signal with the highest access priority.

However, Chuah teaches selecting a Backoff Signal slot by the MC STA for contending for access to the communications medium when the message is determined to have collided with the message from the HPNA v2 STA, the selected Backoff Signal slot being associated with a highest access priority to the communications medium; and retransmitting the collided message when access priority to the communications medium is gained (Chuah, col. 10, lines 9-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Yagil and Gorman in view of Chuah in order to enable the use of different types of frames. One would be motivated to do so in order to provide access priority in a MAC protocol of a communications system.

34. Claims 26, 39 and 56 does not teach or define any new limitations above claim 8 and therefore is rejected for similar reasons.

35. With respect to claim 9, Yagil teaches the invention described in claim 8, including the method where at least one HPNA v2 STA is associated with the communications medium, the method further comprising steps of: determining whether the message has collided with a message transmitted from an HPNA v2 STA (Yagil, col. 11, lines 16-28).

Yagil does not explicitly teach choosing a signal slot 0 during contention resolution.

However, Gorman teaches at least one enhanced station adapted to always choose a signal slot 0 during contention resolution with another station (Gorman, col. 22, lines 1-19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yagil in view of Gorman in order to enable choosing a signal slot 0 during contention resolution. One would be motivated to do so in order to properly allocate and manage constant bit rate streams on a Home Network in a contention-free manner.

The combination of Yagil and Gorman does not explicitly teach the use of selecting a backoff signal with the highest access priority.

However, Chuah teaches the method where the step of selecting the Backoff Signal includes a step of repeatedly selecting a highest priority Backoff Signal slot until the MC STA gains access priority to the communications medium over each HPNA v2 STA (Chuah, col. 10, lines 9-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Yagil and Gorman in view of Chuah in order to enable the use of different types of frames. One would be motivated to do so in order to provide access priority in a MAC protocol of a communications system.

36. Claims 27, 40 and 57 does not teach or define any new limitations above claim 9 and therefore is rejected for similar reasons.

37. With respect to claim 10, Yagil teaches the invention described in claim 9, including the method where at least one HPNA v2 STA is associated with the communications medium, the method further comprising steps of: determining whether the message has collided with a message transmitted from an HPNA v2 STA (Yagil, col. 11, lines 16-28).

Yagil does not explicitly teach choosing a signal slot 0 during contention resolution.

However, Gorman teaches at least one enhanced station adapted to always choose a signal slot 0 during contention resolution with another station (Gorman, col. 22, lines 1-19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yagil in view of Gorman in order to enable choosing a signal slot 0

during contention resolution. One would be motivated to do so in order to properly allocate and manage constant bit rate streams on a Home Network in a contention-free manner.

The combination of Yagil and Gorman does not explicitly teach the use of selecting a backoff signal with the highest access priority.

However, Chuah teaches the method where at least one HPNA v2 STA repeatedly selects a Backoff Signal slot based on a predetermined sequence of Backoff Signal slot selections (Chuah, col. 10, lines 9-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Yagil and Gorman in view of Chuah in order to enable the use of different types of frames. One would be motivated to do so in order to provide access priority in a MAC protocol of a communications system.

38. Claims 28, 41 and 58 does not teach or define any new limitations above claim 10 and therefore is rejected for similar reasons.

39. With respect to claim 11, Yagil teaches the invention described in claim 10, including the method where at least one HPNA v2 STA is associated with the communications medium, the method further comprising steps of: determining whether the message has collided with a message transmitted from an HPNA v2 STA (Yagil, col. 11, lines 16-28).

Yagil does not explicitly teach choosing a signal slot 0 during contention resolution.

However, Gorman teaches at least one enhanced station adapted to always choose a signal slot 0 during contention resolution with another station (Gorman, col. 22, lines 1-19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yagil in view of Gorman in order to enable choosing a signal slot 0 during contention resolution. One would be motivated to do so in order to properly allocate and manage constant bit rate streams on a Home Network in a contention-free manner.

The combination of Yagil and Gorman does not explicitly teach the use of selecting a backoff signal with the highest access priority.

However, Chuah teaches the method where each predetermined sequence of Backoff Signal slot selections used by the HPNA v2 STA does not include a Backoff Signal slot selection that is associated with the highest access priority (Chuah, col. 9, lines 55-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Yagil and Gorman in view of Chuah in order to enable the use of different types of frames. One would be motivated to do so in order to provide access priority in a MAC protocol of a communications system.

40. Claims 29, 42 and 59 does not teach or define any new limitations above claim 11 and therefore is rejected for similar reasons.

41. With respect to claim 12, Yagil teaches the invention described in claim 9, including the method where at least one HPNA v2 STA is associated with the communications medium, the method further comprising steps of: determining whether the message has collided with a message transmitted from an HPNA v2 STA (Yagil, col. 11, lines 16-28).

Yagil does not explicitly teach choosing a signal slot 0 during contention resolution.

However, Gorman teaches at least one enhanced station adapted to always choose a signal slot 0 during contention resolution with another station (Gorman, col. 22, lines 1-19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yagil in view of Gorman in order to enable choosing a signal slot 0 during contention resolution. One would be motivated to do so in order to properly allocate and manage constant bit rate streams on a Home Network in a contention-free manner.

The combination of Yagil and Gorman does not explicitly teach the use of selecting a backoff signal with the highest access priority.

However, Chuah teaches the method where the step of repeatedly selecting a Backoff Signal slot for gaining access to the communication medium is based on a predetermined sequence of Backoff Signal slot selections (Chuah, col. 10, lines 9-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Yagil and Gorman in view of Chuah in order to enable the use of different types of frames. One would be motivated to do so in order to provide access priority in a MAC protocol of a communications system.

42. Claims 30, 43 and 60 does not teach or define any new limitations above claim 12 and therefore is rejected for similar reasons.

43. Claims 17, 31, 48, 61, 80-84 and 86-91 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yagil in view of Gorman and further in view of Bertagna (U.S. 6,862,280).

44. With respect to claim 17, Yagil teaches the invention described in claim 1, including a method for providing access to a communications medium, the communications medium being suitable for allowing use of Home Phoneline Network Association (HPNA) v2-formatted frames, each HPNA v2-formatted frame being timed to allow a plurality of physical layer priority level slots, the method comprising the steps of: maintaining a list of sessions in enhanced stations (STAs) (Yagil, col. 9, lines 48-53) using the communications medium (Yagil, Fig. 4, element 406; col. 5, lines 19-33), each enhanced STA being one of a Media Control Station (MC STA) (Yagil, Fig. 4, element 404; col. 5, lines 19-33 and col. 10, lines 33-41) and a non-Media Control Station (Non-MC STA) (Yagil, Fig. 4, element 300; col. 5, lines 34-46), and each enhanced STA gaining access to the communications medium in a centralized manner (Yagil, col. 9, lines 48-63), and transmitting a message from the Media Control Station (MC STA) (Yagil, Fig. 4, element 404; col. 10, lines 33-41) to at least one selected non-MC STA using the communications medium (Yagil, Fig. 4, element 300; col. 5, lines 34-46 and col. 11, lines 51-67), the transmitted message being transmitted with a highest physical layer priority level available in a first HPNA v2-formatted frame (Yagil, col. 10, lines 23-41).

Yagil does not explicitly teach choosing a signal slot 0 during contention resolution.

However, Gorman teaches at least one enhanced station adapted to always choose a signal slot 0 during contention resolution with another station (Gorman, col. 22, lines 1-19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yagil in view of Gorman in order to enable choosing a signal slot 0

during contention resolution. One would be motivated to do so in order to properly allocate and manage constant bit rate streams on a Home Network in a contention-free manner.

The combination of Yagil and Gorman does not explicitly teach remapping priorities of frames.

However, Bertagna teaches the method where at least one HPNA v2 STA is associated with the communications medium, the method further comprising a step of remapping each priority level at a link sublayer for each HPNA v2 STA that is associated with the communications medium prior to the step of transmitting the message from the MC STA so that no data packet from an upper layer in each HPNA v2 STA associated with the communications medium is mapped to a highest physical layer priority level of a MAC sublayer of the HPNA v2 STA (Bertagna, col. 8, lines 58 – col. 9, line 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Yagil and Gorman in view of Bertagna in order to enable remapping priorities of frames. One would be motivated to do so in order to determine how fast the packet will be processed relative to other packets.

45. Claims 31, 48 and 61 does not teach or define any new limitations above claim 17 and therefore is rejected for similar reasons.

46. With respect to claim 80, Yagil teaches a method for providing access to a communications medium, the communications medium being suitable for allowing use of Home Phoneline Network Association (HPNA) v2-formatted frames, each HPNA v2-

formatted frame being timed to allow a plurality of physical layer priority level slots, the method comprising the steps of: transmitting a message from the Media Control Station (MC STA) (Yagil, Fig. 4, element 404; col. 10, lines 33-41) to at least one selected non-MC STA (Yagil, Fig. 4, element 300; col. 5, lines 34-46 and col. 11, lines 51-67) using the communications medium (Yagil, Fig. 4, element 406; col. 5, lines 19-33), the transmitted message being transmitted with a highest physical layer priority level available in a first HPNA v2-formatted frame (Yagil, col. 10, lines 23-41).

Yagil does not explicitly teach choosing a signal slot 0 during contention resolution.

However, Gorman teaches at least one enhanced station adapted to always choose a signal slot 0 during contention resolution with another station (Gorman, col. 22, lines 1-19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yagil in view of Gorman in order to enable choosing a signal slot 0 during contention resolution. One would be motivated to do so in order to properly allocate and manage constant bit rate streams on a Home Network in a contention-free manner.

The combination of Yagil and Gorman does not explicitly teach remapping priorities of frames.

However, Bertagna teaches the method where at least one HPNA v2 STA is associated with the communications medium, the method further comprising a step of remapping each priority level at a link sublayer for each HPNA v2 STA that is associated with the communications medium prior to the step of transmitting the message from the MC STA so that no data packet from an upper layer in each HPNA v2 STA associated with the

communications medium is mapped to a highest physical layer priority level of a MAC sublayer of the HPNA v2 STA (Bertagna, col. 8, lines 58 – col. 9, line 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Yagil and Gorman in view of Bertagna in order to enable remapping priorities of frames. One would be motivated to do so in order to determine how fast the packet will be processed relative to other packets.

47. With respect to claim 81, Yagil teaches the invention described in claim 80, including a method further comprising a step of maintaining a list of sessions in enhanced stations (STAs) (Yagil, col. 9, lines 48-53) using the communications medium (Yagil, Fig. 4, element 406; col. 5, lines 19-33), each enhanced STA being one of a Media Control Station (MC STA) (Yagil, Fig. 4, element 404; col. 5, lines 19-33 and col. 10, lines 33-41) and a non-Media Control Station (Non-MC STA) (Yagil, Fig. 4, element 300; col. 5, lines 34-46), and each enhanced STA gaining access to the communications medium in a centralized manner (Yagil, col. 9, lines 48-63).

48. With respect to claim 82, Yagil teaches the invention described in claim 80, including the method where a frame encoding of at least one HPNA v2-formatted frame is modified to allow a higher encoding rate than permitted by HPNA v2 (Yagil, col. 3, lines 33-38).

49. With respect to claim 83, Yagil teaches the invention described in claim 80, including the method where a frame header encoding of at least the first HPNA v2-formatted frame is

modified to allow one of a polling frame, a beacon frame, a Centralized Contention (CC) frame, and a management frame (Yagil, col. 11, lines 16-25).

50. With respect to claim 84, Yagil teaches the invention described in claim 83, including the method where when the HPNA v2-formatted frame is modified to allow a Medium Allocation Element (MAE) in the management frame (Yagil, col. 9, line 60 – col. 10, line 4).
51. With respect to claim 86, Yagil teaches the invention described in claim 80, including the method where the transmitted message is one of a polling frame, a data frame and a management frame, and includes an encoding indicating a frame type within a body of the transmitted message (Yagil, col. 9, line 60 – col. 10, line 4).
52. With respect to claim 87, Yagil teaches the invention described in claim 80, including the method where the highest priority level slot of the first HPNA v2-formatted frame is PRI 7 (Yagil, col. 10, lines 5-41).
53. With respect to claim 88, Yagil teaches the invention described in claim 80, including the method further comprising a step of at least one selected non-MC STA receiving the message from the MC STA (Yagil, Fig. 4, element 300; col. 9, lines 48-63 and col. 11, lines 51-67).
54. With respect to claim 89, Yagil teaches the invention described in claim 88, including the method further comprising a step of responding at each selected non-MC STA receiving the

message with a frame transmitted with a highest physical layer priority level available in an HPNA v2-formatted frame at an appropriate time based on the first message from the MC STA (Yagil, col. 9, lines 48-63 and col. 11, lines 51-67).

55. With respect to claim 90, Yagil teaches the invention described in claim 89, including the method where the received message includes a Medium Allocation Packet for a plurality of non-MC STAs, the MAP including information relating to one of a specific time period assigned to each of the plurality of non-MC STAs, an order for each of the plurality of non-MC STAs to use the communications medium, an order for transmissions for each of the plurality of non-MC STAs, and a maximum time for each of the plurality of non-MC STAs to occupy the communications medium (Yagil, col. 9, lines 48-63 and col. 11, lines 51-67).
56. With respect to claim 91, Yagil teaches the invention described in claim 88, including the method further comprising a step of receiving a reply message at the MC STA from at least one selected non-MC STA in response to the transmitted message from the MC STA, the received reply message starting at a highest physical layer priority level available in a second HPNA v2-formatted frame (Yagil, col. 10, lines 23-41).
57. Claim 85 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yagil in view of Gorman in view of Bertagna and further in view of Chuah.

58. With respect to claim 85, Yagil teaches the invention described in claim 84, including a communications medium, the communications medium being suitable for allowing use of Home Phoneline Network Association (HPNA) v2-formatted frames, each HPNA v2-formatted frame being timed to allow a plurality of physical layer priority level slots, the method comprising the steps of: transmitting a message from the Media Control Station (MC STA) (Yagil, Fig. 4, element 404; col. 10, lines 33-41) to at least one selected non-MC STA (Yagil, Fig. 4, element 300; col. 5, lines 34-46 and col. 11, lines 51-67) using the communications medium (Yagil, Fig. 4, element 406; col. 5, lines 19-33), the transmitted message being transmitted with a highest physical layer priority level available in a first HPNA v2-formatted frame (Yagil, col. 10, lines 23-41).

Yagil does not explicitly teach choosing a signal slot 0 during contention resolution.

However, Gorman teaches at least one enhanced station adapted to always choose a signal slot 0 during contention resolution with another station (Gorman, col. 22, lines 1-19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yagil in view of Gorman in order to enable choosing a signal slot 0 during contention resolution. One would be motivated to do so in order to properly allocate and manage constant bit rate streams on a Home Network in a contention-free manner.

The combination of Yagil and Gorman does not explicitly teach remapping priorities of frames.

However, Bertagna teaches the method where at least one HPNA v2 STA is associated with the communications medium, the method further comprising a step of remapping each priority level at a link sublayer for each HPNA v2 STA that is associated with the

communications medium prior to the step of transmitting the message from the MC STA so that no data packet from an upper layer in each HPNA v2 STA associated with the communications medium is mapped to a highest physical layer priority level of a MAC sublayer of the HPNA v2 STA (Bertagna, col. 8, lines 58 – col. 9, line 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Yagil and Gorman in view of Bertagna in order to enable remapping priorities of frames. One would be motivated to do so in order to determine how fast the packet will be processed relative to other packets.

The combination of Yagil, Gorman and Bertagna does not explicitly teach the use of a Beacon frame.

However, Chuah teaches the method where the management frame is a Beacon frame (Chuah, col. 8, lines 15-18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Yagil, Gorman and Bertagna in view of Chuah in order to enable the use of different types of frames. One would be motivated to do so in order to provide access priority in a MAC protocol of a communications system.

Response to Arguments

59. Applicant's arguments filed 5 March 2007 have been fully considered, but they are not persuasive for the reasons set forth below.

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Baturay whose telephone number is (571) 272-3981. The examiner can normally be reached at 7:30am - 5pm, Monday - Thursday, and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Art Unit: 2155

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alicia Baturay
April 30, 2007


SALEH NAJJAR
SUPERVISORY PATENT EXAMINER